



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,242	12/30/2004	Frank Dziobek	1-16693	7584

7590

12/07/2006

Mark A Hixon  
Marshall & Melhorn  
8th Floor  
Four SeaGate  
Toledo, OH 43604

EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/505,242

Applicant(s)

DZIOBEK ET AL.

Examiner

Wayne Langel

Art Unit

1754

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-7-05 and 2-14-05</u> | 6) <input type="checkbox"/> Other: ____  |

Art Unit: 1754

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shields in view of EP 301844. Shields discloses a process for the production of nitric acid wherein the expansion of the tail gas takes place in two steps. (See col. 2, line 48 to col. 3, line 16.) The difference between the process disclosed by Shields, and that recited in applicants' claims, is that Shields does not disclose that there should be a device arranged between expansion units 9 and 10 for heating the expanded tail gas to a temperature of at least 450 C. EP 301844 discloses a process for carrying out exothermic chemical reactions which includes the step of providing pressurized gas supplementary to that required or produced by the process, heating this supplementary gas with a portion of the available excess high temperature heat, and then expanding the gas to generate work. (See the Abstract.) EP 301844 further discloses at col. 13, lines 25-39 that the additional gas may be mixed at any convenient point in the process, at col. 16, lines 18-22 that the supplementary gas may be expanded in a first stage separately of hot gas from the reaction, and then expanded in a second stage with the hot gas, and at col. 15, lines 10-28 that the supplementary gas is heated by a portion of the available excess high temperature heat and then expanded.. It would be obvious from EP 301844 to modify the process of Shields by adding heated supplementary gas between expansion units 9 and 10 of Shields. One of ordinary skill in the art would be

Art Unit: 1754

motivated to do so, since EP 301844 teaches at col.13, lines 25-39 that the supplementary gas may be mixed at any convenient point in the process, and the point between expansion units 9 and 10 of Shields would be convenient since the supplementary gas needs to be expanded.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 4, there is no clear antecedent basis for "the tail gas". In line 6, there is no antecedent basis for "the said configuration". In claim 4, there is no antecedent basis for "said machine". In claim 4, it is indefinite as to whether the term "ensure the compression drive" would require that the compression drive actually be provided. In claim 1, it is indefinite as to whether the device arranged between each pair of expansion units actually heats the expanded tail gas, or whether it is merely "intended" to heat the expanded tail gas but does not actually heat it.

The Drawings and specification are objected to under 37 CFR 1.84 (u) (1) in referring to the sole figure as "Fig. 1".

The specification is objected to under 37 CFR 1.74 in failing to include a "Brief Description of Drawings".

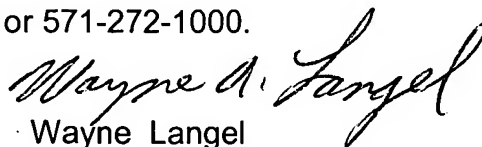
The other references are made of record for disclosing methods for producing nitric acid.

Art Unit: 1754

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Langel whose telephone number is 571-272-1353. The examiner can normally be reached on Monday through Friday, 8 am - 3:30 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Wayne Langel  
Primary Examiner  
Art Unit 1754